



TRANSPORTATION ADVISORY COMMITTEE.

Arlington Planning Department, 730 Mass Ave,
Arlington MA, c/o Daniel Amstutz.

Date: September 1, 2020.
To: Adam Chapdelaine, Arlington Town Manager.
From: TAC Arlington High School Working Group.
Subject: Arlington High School Supplemental Traffic Impact Analysis Review.

Memorandum.

This memo contains two sections. The first summarizes and explains the recommendations made in the Supplemental TIA, along with responses to those recommendations from this working group. The second identifies questions from the working group's review of the Draft TIA, dated October 30, 2018, which are not addressed in the Supplemental TIA.

1. A TAC working group consisting of Jeff Maxtutis (TAC Vice Chair), Melissa Laube, Dan Amstutz (Planning Department) and Howard Muise (TAC Chair) has reviewed the Supplemental Traffic Impact Analysis Report, dated February 2020, and offers the following summary of the report's recommendations.

The Town should consider installing traffic signals at the Grove Street intersections with Summer Street and Massachusetts Avenue. This recommendation is based on an analysis which indicates both intersections will operate at deficient levels of service under no-build and two build conditions (1. two driveways at Schouler Court and Mill Brook Drive, and 2. three driveways with the addition of a driveway to Grove Street). The report concludes that both intersections will meet warrants for installing traffic signals and that with signalization, both intersections will operate at acceptable levels of service (LOS D or better) in the morning, school (mid-afternoon), and evening peak hours. The report also notes that there will be an increase in delay on both approaches of Summer Street at the intersection with Brattle Street and Symmes Road.

The working group recommends that action on these two potential signals be delayed until after the new High School opens and traffic has had time to stabilize. At that time the decision whether to install traffic signals could be based on analysis of actual traffic volumes, including analyses of the interaction of the new signals with the existing signals at Highland Avenue and Massachusetts Avenue, and at Summer Street and Brattle Street/Symmes Road.

The Town should consider installing a traffic signal at the intersection of Mill Street, Mill Brook Drive and Millbrook Square Driveway along with "Do Not Block Intersection" signing and pavement markings. The Mill Brook Drive approach to the intersection is projected to operate at LOS F in all three peak hours. With a traffic signal, the Mill Brook Drive approach would improve to LOS D or better in all three peak hours. The overall intersection would operate at LOS C or better in all peak hours under build conditions. Backups from the southbound approach of Mill Street to Massachusetts Avenue would extend to Mill Brook Drive only in the morning peak hour during about five percent of the signal cycles. To address

possible queuing back to Mill Brook Drive on Mill Street, the report recommends installing “Do Not Block Intersection” signing and pavement markings at the Mill Street, Mill Brook Drive, and Millbrook Square Driveway.

The working group recommends that action on a potential signal at this location be delayed until after the new High School opens and traffic has had time to stabilize. Because of improved site circulation and a major school entrance at the back of the building it is difficult to project future traffic flows. The decision whether to install a traffic signal could be based on analysis of actual volumes, including analyses of the interaction of the new signal with the exiting signals at Mill Street and Summer Street, and Mill Street and Massachusetts Avenue.

The Town should retime the signal at the intersection of Massachusetts Avenue, Schouler Court and Lockeland Avenue after the new school building opens. With the two driveway alternative, the signal is projected to operate at LOS D in the morning peak and LOS B in the school afternoon peak hour. Retiming would improve the overall level of service to C in the morning peak hour and would not change the afternoon level of service. The recommendation also includes reviewing timing at other signals in the area and making any necessary adjustments after the new building opens. In addition, the pedestrian button on the southeast corner does not appear to be operational and should be serviced and the pedestrian signal head on the northeast corner of the intersection should be realigned to provide better guidance to pedestrians on the southeast corner. The report also studied coordination between the Schouler Court traffic signal and the pedestrian signal on the Massachusetts Avenue in front of the school. The results indicated coordination would reduce level of service at both the intersection and the crosswalk in both the morning and school afternoon peak hours.

The working group supports these recommendations for the Schouler Court intersection and recommends that the Department of Public Works service the pedestrian button and realign the pedestrian signal head in the near term.

The Town should adjust the pedestrian signal timing at the crosswalk on Massachusetts Avenue in front of the school to conform with current Manual on Uniform Traffic Control Devices (MUTCD) guidelines. Since the original timings were developed for the signalized crosswalk, the guidelines for pedestrian walk and change (flashing don’t walk) intervals have been updated, i.e., the calculated walking speed has been reduced to 3.5-feet per second. This requires a longer pedestrian crossing time. The report considered alternatives to the existing pedestrian signal – A pedestrian hybrid beacon and flashing beacons. The report concluded that the existing pedestrian signal was the best alternative for this location because it provides the most definitive direction to drivers and retains the current operation, which drivers are accustomed to.

The working group supports this recommendation that the timing on the pedestrian signal be updated to reflect current MUTCD guidance and recommends that the Department of Public Works make this change in the near term.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muike (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

Web site: www.arlingtonma.gov/tac

The Town should consider installing a pullout on eastbound Summer Street at the existing paved connection between the sidewalk and the Minuteman Bikeway. This improvement also includes a bicycle ramp between the street and sidewalk west of the pullout to allow for direct bicycle access to the proposed bicycle and pedestrian ramp between the school building and Summer Street. The pullout would allow vehicles to exit the travel lane to allow for drop-off and pick-up at the top of the ramp between the school and Summer Street. Vehicles using this location would be able to avoid traveling on campus or roadways around the campus.

The eastbound roadway has a 12.5-foot travel lane, and a seven and a half-foot shoulder. There is sufficient stopping sight distance at this location and room to realign the roadway curb line and sidewalk.

The report also investigated installing a crosswalk between the south side and the north side of the street at this location and concluded it was not a suitable location for a crosswalk. The north side has no sidewalk because of an existing rock ledge close to the edge of the road. Also, there is insufficient stopping sight distance on the westbound approach because it is on the inside of a horizontal curb. To help discourage westbound vehicles from stopping, “No Stopping” signs could be installed. Pedestrians should cross Summer Street at Oak Hill Drive or Mill Street. A new crosswalk could potentially be added at Rich field Road which would be about 500 feet closer to the connection to the Bikeway than the crosswalk at Mill Street.

The working group recommends that the decision on a pullout be delayed until after opening of the new school and installation of the bike/pedestrian connection between the Minuteman Bikeway and the school. At that time the actual drop-off and pick-up activity on Summer Street can be monitored and the need for a pull out and/or new Summer Street crosswalk in the area can be evaluated.

At this time, a cycle track or cycle track elements cannot be implemented on Massachusetts Avenue without obtaining additional right-of-way. The existing cross section of Massachusetts Avenue between Schouler Court and Newman Way (opposite CVS) is 75 feet. This allows for an eight and half-foot sidewalk, eight-foot parking lane, five-foot bike lane, and 11-foot vehicle travel lane on each side of the roadway plus a ten-foot center turn lane. To convert the existing bike lane to a cycle track between the parking lane and sidewalk, a three-foot separation between the parking lane and bike lane would be required. This separation is needed so that a bicyclist is not hit by the opening of the passenger side door of a parked car. According to the Supplemental TIA the additional three feet on each side of the roadway would need to be taken from the existing lanes and/or sidewalk, or the right of way would need to be increased by six feet.

The working group disagrees with this assessment and recommends that further consideration be given to the installation of a cycle track. Attached to this memo are two concepts for a cycle track that would not require additional right-of-way. Both concepts require the removal of the

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muike (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

Web site: www.arlingtonma.gov/tac

center turn lane. Version 1 has fairly wide travel lanes (13') that would allow left-turning vehicles to be passed on the right, mitigating the loss of the center turn lane. This would only impact westbound traffic because there will be no driveways on the north side of Massachusetts Avenue. Both concepts would retain the existing sidewalks on both sides of the roadway and would require transitions between the cycle track and the existing roadway cross-section at either end.

Version 1 would also eliminate parking on the south side of Massachusetts Avenue. The south side parking, particularly between Lockeland Avenue and Churchill Avenue, is limited because of fire hydrants, driveway curb cuts, and the crosswalk across Massachusetts Avenue at Churchill Avenue, leaving room for about eight legal parking spaces. There are about another seven spaces between Churchill Avenue and the CVS. The businesses on the south side of the street have off-street parking, and short-term parking is available on the side streets. Therefore, any parking impact should be limited.

In Version 1, the seven-foot bike lane on the high school side would be raised to the level of the sidewalk and would include a seven-foot wide raised median between the raised bike lane and the roadway. This would make it easy for students to cross the bike lane and would not require additional curb cuts. The curb on the AHS side would be shifted 14 feet to the south to accommodate the raised bike lane and median. A six-foot bike lane would be provided on the south side of the road separated from the traffic lane by a four-foot striped buffer with three-foot high flex-posts.

Version 2 retains an eight-foot parking lane on the south side of Massachusetts Avenue. There may be some loss of parking due to the need to preserve sight lines for the bank driveways and the intersections with Bailey Road and Churchill Avenue, but not a complete loss as in version 1. The parking lane would be separated from the sidewalk by a street level six-foot bike lane and a three-foot striped buffer with three-foot high flex-posts between the bike and parking lanes.

The Version 2 concept has 11-foot travel lanes, which is the MBTA minimum to accommodate buses. The seven-foot fire lane would generally allow westbound vehicles to pass westbound left-turning vehicles, mitigating the loss of the center turn lane. In contrast to Version 1, the six-foot bike lane would be kept at street level and would be separated from the fire lane by a six-foot raised median which would not be connected to the existing curb. The raised median is needed to prevent vehicles from crossing the bike lane to reach or leave the current curb for drop-off and pick-up. A curb opening would be required in the median at the Massachusetts Avenue crosswalk to provide an accessible path.

2. The TAC working group also found that the following requests for additional information were not addressed in the Supplemental TIA:
 - a) Clarify the assumptions about how the roadway behind the school would operate in the Build condition.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muike (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

Web site: www.arlingtonma.gov/tac

- b) Provide information showing that there is sufficient room at the back of the school to accommodate expected drop-off/pick-up, bicycle, and pedestrian activity, and provide information on queuing and delay.
- c) Consider how to accommodate drop-off and pick-up activity that will likely occur at the front of the school, including providing an on-site driveway or pull-out along Massachusetts Avenue.
- d) Include a Build condition parking supply/demand analysis to assess the impact of future parking on area roadways.
- e) Provide a plan that shows how pedestrians will access the buildings, circulate between buildings on the campus and connect to sidewalks on Massachusetts Avenue, Mill Street and Grove Street.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

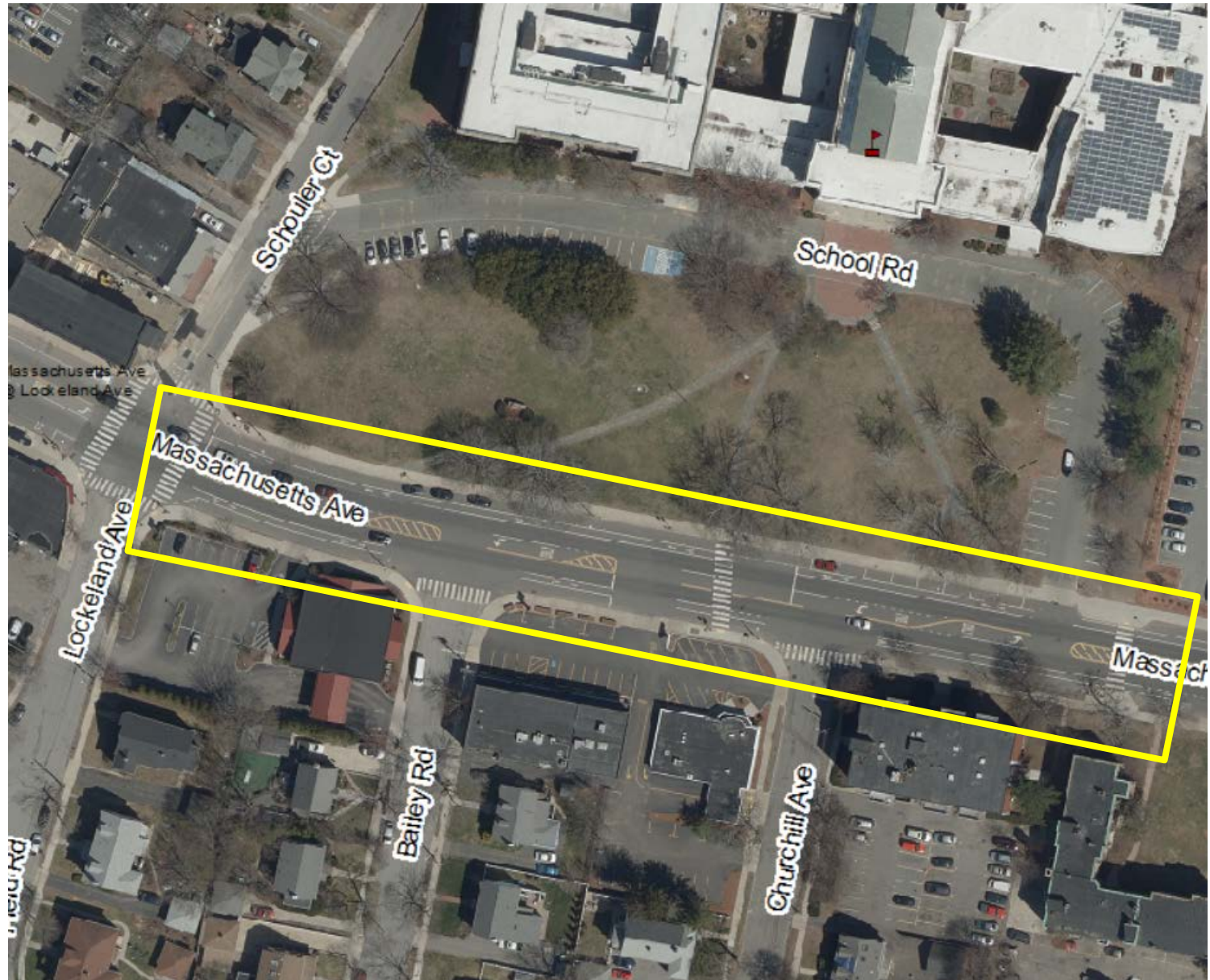
Web site: www.arlingtonma.gov/tac

AHS Cycletrack Concept

August 27, 2020

Daniel Amstutz, Department of
Planning & Community Development

Overview of Limits



Mass Ave @ AHS Existing

←
Arlington
High School



8½'
Sidewalk

8'
Parking lane

5'

11'
Drive lane

10'
Center turn lane

11'
Drive lane

5'

8'
Parking lane

8½'
Sidewalk

Made with **Streetmix**

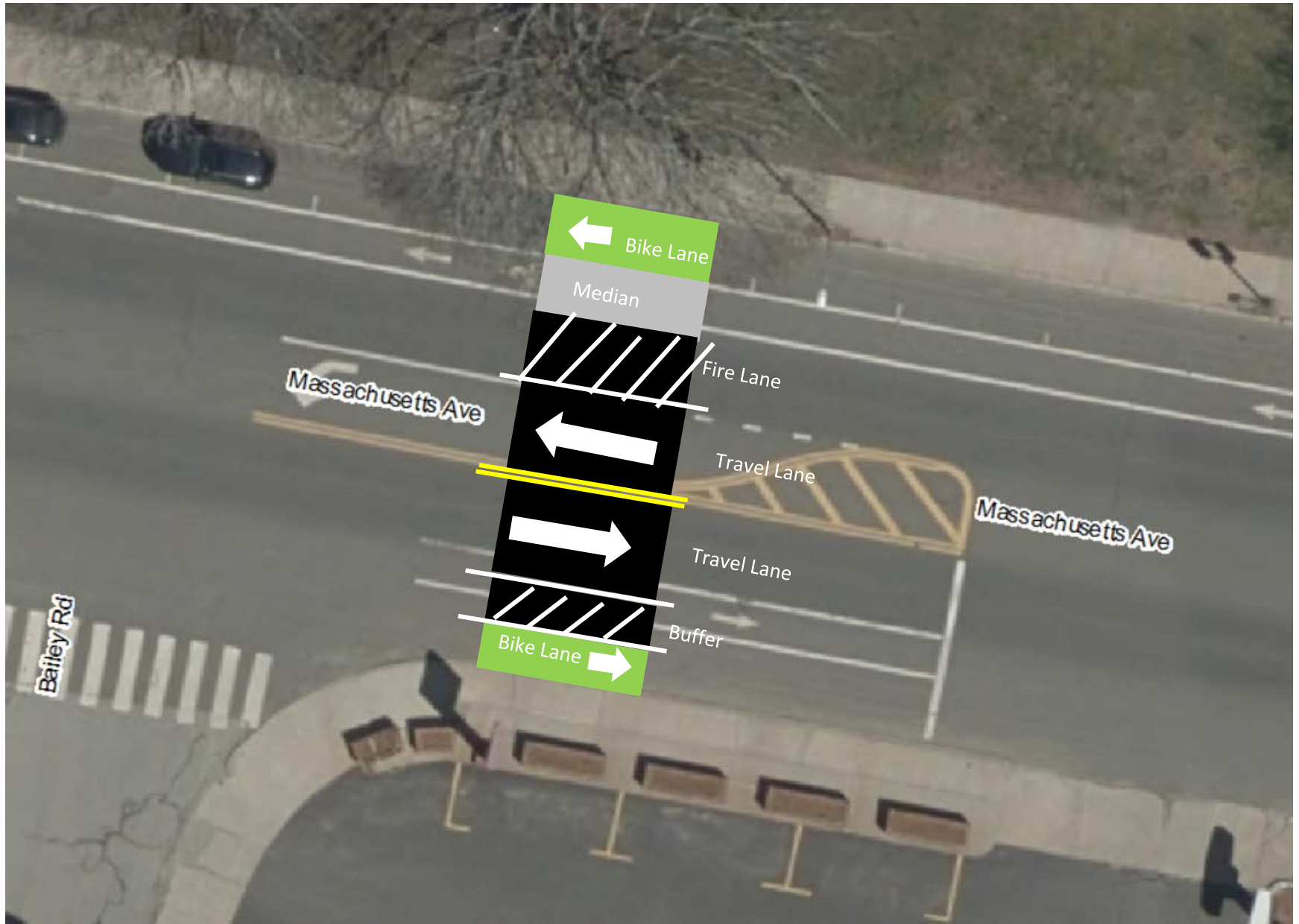
Mass Ave @ AHS with Cycletrack (v.1) (Looking East)

←
Arlington
High School



Made with **Streetmix**

Top-Down View (version 1)



Mass Ave @ AHS with Cycletrack (v.2) (Looking East)

←
Arlington
High School



Made with **Streetmix**

Top-Down View (version 2)

